What is claimed is:

1. An apparatus for projection display, the apparatus comprising:

an image generation device configured to generate an image;

a wide angle lens system having an optical axis configured to receive the image and project the image along an optical path for display above the apparatus; and

direction changing optics configured to fold the optical path such that the optical path changes direction from a first direction to a second direction, the image generation device is positioned below the optical axis of the wide angle lens system.

2. The apparatus of claim 1, wherein the wide angle lens system includes a relay lens stage and a wide angle lens stage.

3. The apparatus of claim 2, wherein the relay lens stage is configured to generate a distorted intermediate image and the wide angle lens stage is configured to substantially cancel the distortion of the intermediate image.

4. The apparatus of claim 2, wherein the optical axis of the wide angle lens system is the optical axis of the relay lens stage.

5. The apparatus of claim 1, wherein the first direction is substantially the reverse of the second direction.

6. The apparatus of claim 1, wherein the first direction is toward a front of the projection display device and the second direction is toward a rear of the projection display device.

7. The apparatus of claim 1, wherein the direction changing optics include two fold mirrors.

8. The apparatus of claim 2, wherein the wide angle lens stage is in a first plane and the relay lens stage is in a second plane, and the first plane is above the second plane.

9. A lens system, the system comprising:

a relay lens stage configured to generate an intermediate image;

a wide angle lens stage configured to substantially correct the intermediate image; and

direction changing optics configured to receive the intermediate image from the relay lens stage from a first direction and redirect the intermediate image to the wide angle lens stage in a second direction, where the first direction is substantially opposite the second direction.

10. The lens system of claim 9, wherein the direction changing optics comprise at least one fold mirror.

11. The lens system of claim 9, wherein the relays lens stage is configured to generate a substantially distorted image and the wide angle lens stage is configured to substantially cancel the distortion of the intermediate image.

12. The lens system of claim 9, wherein the relay lens stage has a first optical axis and the wide angle lens stage has a second optical axis and where the first optical axis is oriented below the second optical axis.

13. A projection device comprising the lens system of claim 9.

14. The projection device of claim 13, comprising a body having a front and a rear, wherein the first direction is toward the front of the body and the second direction is toward the rear of the body.

15. The projection device of claim 14, wherein the body is substantially sized such that upon positioning the body substantially adjacent a viewing surface a minimum throw distance of the lens system is achieved to the viewing surface.

16. A projection device comprising:

a means for generating a distorted image;

a means for substantially canceling the distortion of the image to generate a corrected image;

a means for directing the distorted image in a first direction toward a front of the projection device; and

a means for directing the corrected image in a second direction toward a rear of the projection device for projection on a viewing surface above the projection device.

17. The projection device of claim 16, wherein the means for generating a distorted image includes an image generation device.

18. The projection device of claim 16, wherein the means for generating a distorted image includes a relay lens stage.

19. The projection device of claim 16, wherein the means for substantially canceling the distortion include a wide angle lens stage.

20. The projection device of claim 16, wherein the means for generating an image is disposed below an optical axis of a means for substantially canceling the distortion of the image to generate a corrected image.